PHILOSOPHICAL TRANSACTIONS.

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An Account of a not ordinary Burning Concave, *lately made at* Lyons, *and compared with ſeveral others made formerly.*

AN opportunity being preſented to revive the publiſhing of theſe Papers, which for ſome Moneths hath been

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diſcontinued by reaſon of the great Mortality in *London*, where they were begun to be Printed; it hath been thought fit to embrace the ſame, and to make uſe thereof for the gratifying of the Curious, that have been pleaſed to think well of ſuch Communications: To re-enter whereupon, there offers it ſelf firſt of all a Relation of an un common *Burning Glaſs*, not long ſince made in *France*, in the City of *Lyons*, by one called Monſieur *de Vilette*, as it was ſent to the *Publiſher* of theſe *Tracts*, in two Letters, whereof the one was in *Latine*, the other in *French*, to this effect:

Concerning the Efficacy of Monſieur *de Vilette* his Burning Glaſs, all what the *P. Bertit* hath written of it, is true. We have ſeen the Effects of it repeated over and over again, in the Morning, at Noon, and in the After-noon, always performing very powerfully; burning or melting any Matter, very few excepted. The *Figure* of it is round, being thirty Inches, and ſomewhat better, in *Diameter*. On one ſide it hath a Frame of a circle of Steel, to the end that it may keep its juſt Meaſure: 'Tis eaſie to remove it from place to place, though it be above an hundred weight, and 'tis eaſily put in all ſorts of poſtures. The *burning Point* is diſtant from the Centre of the Glaſs, about three Feet. The *Focus* is about half a *Louys d'or* large. One may paſs ones hand through it, if it be done nimbly; for if it ſtay there the time of a ſecond Minute, there is danger of receiving much hurt.

Green wood takes fire in it, in an inſtant, as do alſo many other Bodies.

	Seconds.
A ſmall piece of *Pot-Iron* was melted, and ready to drop down, in	40.
A *Silver Piece of* 15 *Pence* was pierced, in	24.
A *groſs Nail* (called *le Clou de paiſan*) was melted, in	30.
The end of a *Sword-blade of Olinde*, was burn'd, in	43.
A *Braſs Counter* was pierced, in	06.
A piece of *red Copper* was melted, ready to drop down, in	42.

A piece

	ſec.
A piece of a *Chamber Quarry-ſtone* was vitrified, and put into a Glaſs-drop, in	45.
Steel, whereof Watch-makers make their ſprings, was found melted, in	09.
A *Mineral-ſtone*, ſuch as is uſed in Harquebuſſes *à rouët*, was calcin'd and vitrified, in	1. *juſt.*
A piece of *Morter* was vitrified, in	52.

In ſhort, there is hardly any Body, which is not deſtroyed by the Fire. If one would melt by it any great quantity of Metal, that would require much time, the Action of Burning not being perform'd but within the bigneſs of the *Focus*, ſo that ordinarily none but ſmall pieces are expoſed to it. One Monſieur *d'Alibert* buys it, paying for it Fifteen hundred Livres.

Since this Information, there were, upon occaſion given from hence, upon the ſame ſubject, further communicated from *Paris* the following Particulars:

I ſee by two of the Letters, that you incline to believe, the Glaſſes of *Maginus* and *Septalius* do approach to that of *Lyons*: But I can aſſure you, they come very far ſhort of it. You may conſult *Maginus* his Book, where he deſcribes his; and there are ſome Perſons here that have ſeen one of his beſt, which had but about twenty Inches *diameter*; ſo that this of *Lyons* muſt perform at leaſt twice as much. As to *Septalius*, we expect the Relations of it from Intelligent and Impartial Men. It cannot well be compared to that of *Lyons*, but in bigneſs; and in this caſe, if it have five *Palms* (as you ſay) that would be about 3½ feet *French*, and ſo it were a Foot bigger, which would make it half as much greater in ſurface: But as to the Effects, ſeeing it burns ſo far off, they cannot be very violent. And I have heard one ſay, that had ſeen it, that it did not ſet Wood on Fire but after the time of ſaying a *Miſerere*. You may judge of the difference of the Effects, ſince that of *Lyons* gathers its Beams together within the ſpace of ſeven or eight *Lines*;

and that of *Septalius* muſt ſcatter them in the compaſs of three Inches. Some here do intend to make of them, yea and bigger ones; but we muſt ſtay till they be done, *&c.*

Of Monſieur Hevelius's *Promiſe of imparting to the World his Invention of making* Optick Glaſſes; *and of the hopes given by Monſieur* Hugens *of* Zulichem, *to perform ſomething of the like nature; as alſo of the Expectations, conceived of ſome Ingenious Perſons in* England, *to improve* Teleſcopes.

That eminent Aſtronomer of *Dantzick*, Monſieur *Hevelius*, writes to his Correſpondent in *London*, as followeth:

What hath been done in the grinding of Optick glaſſes in your parts, and how thoſe beginnings, mention'd by you formerly, do continue and ſucceed, I very much covet to hear. 'Tis now above ten Years, ſince I my ſelf invented a peculiar way of grinding ſuch Glaſſes, and reduced it alſo into practiſe; by which 'tis eaſie, without any conſiderable danger of failing, to make and polliſh Optick glaſſes of any *Conick* Section, and that (which is moſt notable) in any diſh of any Section of a *Sphere*: which Invention I have as yet diſcovered to none, my purpoſe being, for the Improvement of Natural Knowledge, to deſcribe the whole method thereof in my *Celeſtial Machine*, and to propoſe it to the Examination and Judgement of the *Royal Society*; not doubting at all, but they will finde the way true and practicable, my ſelf having already made ſeveral Glaſſes by it, which many Learned Men have ſeen and tryed.

Monſieur *Hugens*, inquiring alſo in a Letter, newly written by him to a Friend of his in *England*, of the ſucceſs of the attempts made by an Ingenious *Engliſh* Man for perfecting ſuch Glaſſes, and urging the proſecution of the ſame,

ſo